6, endowments; 7, annuities; 8, survivorships; 9, survivorship annuities; 10, advantages to landed proprietors; 11, to merchants; 12, to physicians, lawyers, Government officials; 13, to tradespeople; 14, to labourers and workmen; 15, to children; 16, advantages in special cases; 17, to the rural population; 18, to rich people; 19, advantages in general; 20, the aim of the agent; 21, his own instruction; 22, advertisements; 23, conversation about life insurance; 24, letters about it; 25, prejudices; 26, how to prevent bad business; 27, filling up proposals, &c.; 28, activity of agents.

The other book has the title—*Grundzüge dar aüf menschliche Sterblichkeit gegründeten Versicherungswesens* (Principles of Insurance contingent on Human Mortality), by Dr. Ph. Fischer, Oppenheim-on-Rhine. Of this work, only a part of the first division has been published, containing a detailed investigation of the different methods of determining the mortality. This chapter is executed in a satisfactory way, and shows the Doctor to be a perfect master of the subject. The second division is intended for the theory and practice of insurance, and will probably be of high interest.

A friend of mine, Dr. K. Heym, of Leipzic, who is entitled to great praise for his publications about life insurance matters, has favoured me, some weeks ago, with a letter containing a treatise concerning the computation of premiums for survivorship assurance. As far as I know, his formulæ are new—at least, I do not remember ever to have seen them in any work that has come under my notice—and, by his permission, I send you a translation of it,* which, I think, will not be devoid of interest for your readers, as the computations made according to the generally-used methods require a long process, and are not at all adapted for logarithms.

<div style="text-align:center">I am, Sir,
Your obedient Servant,</div>

Hamburgh, 20th Jan., 1859.   WILHELM LAZARUS.

AS TO A CERTAIN FIRE INSURANCE AND THE MODE OF SETTLING A LOSS UNDER IT.

To the Editor of the Assurance Magazine.

SIR,—I send enclosed the particulars of a loss which lately happened in a foreign city, and I think, from its peculiarities, it is deserving of record in your valuable *Magazine*. I wish also to invite remarks on the correctness of the settlement.

I am not sure that the Offices have *all* fulfilled the conditions of their policies, as it is questionable whether those Offices which have effected the insurances *without* the *pro ratâ* clause in their policies should not have paid the deficiency allotted to H, the assured, by those Companies which have that clause in their policies.

B's apportionment, I think, is right, so far as his own Office is concerned; and was presumed to be right in regard to the others, until it was discovered that the *pro ratâ* condition was not in every policy.

C appears to have overlooked the specific insurance on L by D.

---

* The formulæ communicated by our correspondent so closely resemble those given by Mr. Chisholm in vol. i., part 3, of his recently-published *Commutation Tables*, that it is needless to repeat them here. A comparison of the two works would, no doubt, be curious and instructive.—ED. *A. M.*

D appears to have overlooked the fact that B's policy contained the *pro ratâ* condition.

The details of this settlement may be interesting to those who have given their attention to the settlement of losses under average policies.

<div align="center">

I am, Sir,

Your obedient servant,

R. B. F.

Pro ratâ condition.
</div>

" When, in case of loss by fire, the insured goods are valued at more than the sum insured, and some portion of the goods are saved, the owner shall be considered as his own insurer for the excess, and shall, in consequence, bear his share of the loss *pro ratâ.*"

<div align="center">

STATEMENT.
</div>

Office.	Insurances.	Rigsmont Dollars.	
A, On merchandise in warehouses communicating, A to L		40,000.	No *pro ratâ* condition.
B, Ditto,	ditto	30,000.	With *pro ratâ* condition.
C, Ditto,	ditto	38,000.	No *pro ratâ* condition.
D, On merchandise in warehouse L		10,000.	No *pro ratâ* condition.
On merchandise in all other warehouses, A to K		85,000.	
E, On sugars in all warehouses, A to L		30,000.	With *pro ratâ* condition.

<div align="center">

Rd. 233,000.

H, the assured.
</div>

The absence of the *pro ratâ* condition from the policies of Offices A, C, and D, was not known to B until after the settlement.

Total value of goods, at time of fire, Rd. 233,928, 3 marks, and 2 skillings,* viz.:—

Sugars (none in L)	. . . . . .	Rd. 138,357	3 12
Merchandise in L .	. . . .	6,827	2 6
Ditto, in A to K .	. . . .	88,743	3 0
		Rd. 233,928	3 2

<div align="center">

Loss.
</div>

On sugars . .	. . . . . .	Rd. 84,719	0 1
On merchandise in L .	. . . . . .	6,827	2 6
Ditto in A to K .	. . . . . .	49,953	3 0
		Rd. 141,499	5 7

<div align="center">

APPORTIONMENT BY D.
</div>

Value of Sugar.	Loss on Sugar.	Insured by E.	Loss of E.
Rd. 138,357 : 3 : 12.	Rd. 84,704 : 4 : 3.†	Rd. 30,000.	Rd. 18,366 : 2 : 10.

<div align="center">

Loss in L.
</div>

Insured.
Rd. 233,000
Less E,   30,000

Rd. 203,000 covers loss, Rd. 6,827 : 2 : 6.

Insured by A, B, C.
Rd. 108,000 = Rd. 3,632 : 2 : 3.

<div align="center">

* 16 skillings = 1 mark, 6 marks = 1 dollar.
† An unexplained discrepancy.
</div>

Thus—

D, for Rd. 10,000 0 0
A, B C,   3,632 2 3
_____

    Rd. 13,632 2 3 covers Rd. 6,827 : 2 : 6. Rd. 10,000 0 0 pays Rd. 5,008 1 8
                                                     3,632 2 3 pays   1,819 0 14
                                                                               Rd. 6,827 2 6

Loss *in* A *to* K.

Floating Policies in D .   .   .   .   Rd. 85,000 0 0
A, B, C, cover   .   . Rd. 108,000 0 0
        less, paid .   .   1,819 0 14
                                                 106,180 5 2
                                             Rd. 191,180 5 2

Total loss .   .   . Rd. 141,485 3 9 (discrepancy in sugar account.)
E paid   . Rd. 18,366 2 10
Paid on L   6,827 2 6
                      25,193 5 0

                  Rd. 116,291 4 9 Thus, Rd. 85,000 loses Rd. 51,703 5 14
                                        And on L   5,008 1 8

                          Total loss to Office D   . Rd. 56,712 1 6

APPORTIONMENT BY C.

Loss on merchandise .   .   .   .   . Rd. 56,880 58 *sk.* ⎫
  ,,   sugars .   .   .   .   .   85,205 84 ⎬ discrepancy
                                  Rd. 142,086 46 ⎭ unexplained.

Sugars valued at Rd. 138,357 : 60; loss, Rd. 85,205 : 84; loss $= 61\frac{3}{5}$ per cent.
E therefore pays Rd. 18,480—

        Gross Loss .   .   .   .   .   . Rd. 142,086 46
        E pays 18,480 0

             For other Offices   .   . Rd. 123,606 46

A insures Rd. 40,000   .   .   .   .   . Loss, Rd. 24,355 92
B ,,   30,000   .   .   .   .   .   ,,   18,266 93
C ,,   38,000   .   .   .   .   .   ,,   23,138 16
D ,,   95,000   .   .   .   .   .   ,,   57,845 37

                                        Rd. 123,606 46

APPORTIONMENT BY E
(*of Sugar Loss*), *not known.*

APPORTIONMENT BY B, AND ADOPTED BY A.

Loss on Goods (Sugars excepted) in all Warehouses (L *excepted*).

Whole value of goods, Rd. 233,928 : 3 : 2.
Value of goods (sugar excepted), A to K, Rd. 88,743 : 3; loss thereon, Rd. 49,953 : 3.

Office.	Insurance.	Rateable proportion of Insurance applicable to Warehouses A to K, on Goods (Sugar excepted).	Share of Loss on Goods (Sugar excepted) in A to K.
A	Rd. 40,000 0 0	Rd. 15,174 3 0	Rd. 10,169 3 0
B	30,000 0 0	11,381 0 0	7,627 1 4
C	38,000 0 0	14,415 4 7	9,661 0 8
H, assured..	928 3 2	352 1 4	236 0 0
Goods in all warehouses (L excepted), Rd. 227,101 : 12.			
D	85,000 0 0	33,215 1 0	22,259 4 4
		Rd. 74,538 3 11	Rd. 49,953 3 0

Loss on Sugars.

Whole value of goods, Rd. 233,928 : 3 : 2.
Sugars in A to K (none in L), value Rd. 138,357 : 3 : 12; loss thereon, Rd. 84,719 : 0 : 1.

Office.	Insurance.	Rateable proportion of Insurance applicable to Sugars.	Share of Loss on Sugars.
A	Rd. 40,000 0 0	Rd. 23,658 0 0	Rd. 13,708 1 2
B	30,000 0 0	17,743 3 0	10,281 1 0
C	38,000 0 0	22,475 0 9	13,022 4 11
H, assured..	928 3 2	549 1 4	318 0 10
E	30,000 0 0	30,000 0 0	17,382 5 10
Goods in all warehouses (L excepted), valued at Rd. 227,101 : 12.			
D	85,000 0 0	51,784 5 0	30,005 5 0
		Rd. 146,210 3 13	Rd. 84,719 0 1

Loss on Goods (Sugars excepted) in L.

Whole value of goods, Rd. 233,928 : 3 : 2.
Value of goods in L, Rd. 6,827 : 2 : 6; loss thereon, Rd. 6,827 : 2 : 6.

Office.	Insurance.	Rateable proportion of Insurance applicable to L.	Share of Loss in L.
A	Rd. 40,000 0 0	Rd. 1,167 3 0	Rd. 604 4 12
B	30,000 0 0	875 3 0	453 3 9
C	38,000 0 0	1,109 1 0	574 3 3
H, assured..	928 3 2	27 0 10	13 5 12
D	10,000 0 0	10,000 0 0	5,180 3 2
		Rd. 13,179 1 10	Rd. 6,827 2 6

Recapitulation of Risk.

| Office. | A to K. | | L. | Total. |
	Goods.	Sugar.		
A	Rd.15,174 3 0	Rd.23,658 0 0	Rd.1,167 3 0	Rd.40,000 0 0
B	11,381 0 0	17,743 3 0	875 3 0	30,000 0 0
C	14,415 4 7	22,475 0 9	1,109 1 0	38,000 0 0
D	33,215 1 0	51,784 5 0	10,000 0 0	95,000 0 0
E	..	30,000 0 0		30,000 0 0
H, assured	352 1 4	549 1 4	27 0 10	928 3 2
				Rd.233,928 3 2

Recapitulation of Loss.

| Office. | A to K. | | L. | Total. |
	Goods.	Sugar.		
A	Rd.10,169 3 0	Rd.13,708 1 2	Rd.604 4 12	Rd.24,482 2 14
B	7,627 1 4	10,281 1 0	453 3 9	18,361 5 13
C	9,661 0 8	13,022 4 11	574 3 3	23,258 2 6
D	22,259 4 4	30,005 5 0	5,180 3 2	57,446 0 6
E	.. ..	17,382 5 10	.. ..	17,382 5 10
H, assured	236 0 0	318 0 10	13 5 12	568 0 6
				Rd.141,499 5 7

	H has received.	H should have received.*
From A	Rd. 24,482 2 14	Rd. 24,482 2 14
„ B	18,361 5 13	18,361 5 13
„ C	23,138 1 0	23,258 2 6
„ D	56,712 1 6	57,446 0 6
„ E	17,382 5 10	17,382 5 10
	Rd. 140,077 4 11	Rd. 140,931 5 1

* It is questionable whether H should not also have received from A, C, D the difference between Rd. 140,931 : 5 : 1 and the total amount of loss, Rd. 141,499 : 5 : 7—

Say, from A . . . . Rd. 139 2 6
  „ C 132 2 9
  „ D 296 1 7

Rd. 568 0 6